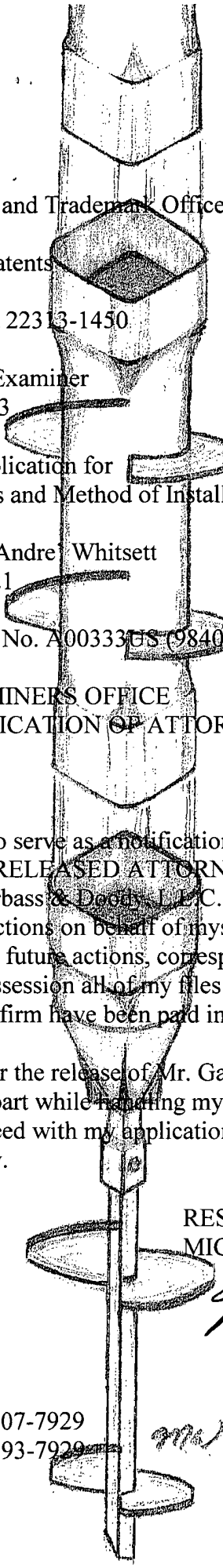


January 25, 2004

United States Patent and Trademark Office

Commissioner for Patents
P.O. Box 1450
Alexandria, Virginia 22313-1450

SAFAVI, Michael: Examiner
Group Art Unit: 3673

RE: U.S. Patent Application for
"Piling Apparatus and Method of Installation"

Applicant: Michael Andre' Whitsett
Serial No. 09/993,321
Filed: 11/14/01
Ex-Attorney Docket No. A00333US (9840-11)

LETTER TO EXAMINERS OFFICE
" RELEASE NOTIFICATION OF ATTORNEY"

Dear Mr.Safavi,

This letter is to serve as a notification to the United States Patent and Trademark Office that I have, "RELEASED ATTORNEY MR.CHARLES C. GARVEY, JR." of Garvey, Smith, Nehrbass & Doody, L.L.C. from any and all responsibility, any further correspondence or actions on behalf of myself MICHAEL ANDRE' WHITSETT as of January 14,2004 any future actions, correspondences, or questions should be directed to me. I have in my possession all of my files and records from Mr.Garvey's office. Mr. Garvey and his firm have been paid in full per his billing on January 14,2004.

The reason for the release of Mr. Garvey on my part is negligence and nonfeasance on his part while handling my Patent Application. I wish to put this matter behind me and proceed with my application and future ones uninterrupted and as smoothly as possibly.

RESPECTFULLY SUBMITTED
MICHAEL ANDRE' WHITSETT

MY ADDRESS IS:
Michael Whitsett
106 Ruffian Court
Bush, La. 70431
Cell phone # (985) 807-7929
Home phone (985) 893-7929

January 24, 2004

United States Patent and Trademark Office

Commissioner for Patents
P.O. Box 1450
Alexandria, Virginia 22313-1450

SAFAVI, Michael:
Group Art Unit: 3673

RE: U.S. Patent Application for
"Piling Apparatus and Method of Installation"

Applicant: Michael Andre Whitsett
Serial No. O9/993,321
Filed: 11/14/01
(Ex)-Attorney Docket No. A00333US (98401.1)

LETTER TO THE EXAMINERS OFFICE
" RESPONSE TO EXAMINERS OFFICE ACTIONS 1 & 2"

Dear Mr. Safavi,

Attached is a letter drafted by myself (Michael Whitsett) Response to Examiners Office Actions Summaries 1&2. I am sending these letters to response on my own accord, addressing the claims that are rejected and that have not been resolved from the First Examiners Office Action Summary Document dated 5/02/03 and have resurfaced in the Second Examiners Office Action Summary Document dated 11/21/03.

I have spent from the end of November until now trying to put into words the differences between my Patent Application and those Patents that were sited in the Office Action Summary's 1&2 Letters. Please understand, this has not been easy for me for one thing I tried to understand the language used, often finding conflicting statements or meaning of particular items that I had to research and define properly. I found myself getting frustrated while searching for words to describe my findings and angry when having to address some. Along with addressing the claims I poured my heart and feeling into how this piling system has evolved from the beginning. This hard earned idea is no longer just a concept but a viable engineered product that is being manufactured, marketed, sold, and being installed under telecommunication towers, commercial buildings and structures.

The letter Response To Examiner Office Action 1&2 Dated Jan.4, 2004 was originally sent on January 5,2004 with a cover letter to my now released Attorney Mr. Charles Garvey. He had requested this information by letter from me Dated Nov.25, 2003 along with a copy of the First Office Action Summary, the Second Office Action Summary and his Poorly Addressed Response to First Office Action Dated July 31, 2003. His letter stated to me "Please carefully review the Patents which the Examiner has cited

in the rejection of your claims. We would appreciate receiving your written comments pointing out the differences between your invention and the cited patents.

The attached letter pages 1-14 were sent to Mr.Garvey originally to address as he had requested the differences between the Patents. I know it is lengthy, very detailed and possibly bold in statements. Please excuse this but as I reviewed the Office Action Summary 1&2 Letters along with the Response Letter from Mr. Garvey I felt that he had missed completely what the Examiner was asking of him to respond to in detail in the First Office Action. And he failed to address the Examiners statements that were cited as to why the claims were rejected in the first place. (I had addressed this in a meeting with Mr. Garvey in June 2003 and gave to him my highlighted comments found in the First Office Action Summary which he completely disregarded in his Response Letter Dated July 31, 2003.) Instead he just rewrote the claims. I'm happy that I took his advice "Please carefully review the Patents." His not responding properly to the First Office Action in my view has cost me time along with A.B.Chance/Hubbell Power Systems, which would like to be a partner in the Composite Helical Pipe Pile System.

Apparently the Examiner realized Mr. Garvey missed this also, and made allowances for time by allowing the Second Office Action Summary not being a Final Action. I want to express a very sincere Thank You for the allowance of time given.

I hope I have addressed the Office Actions, as the Examiner would have liked in detail. And any guidance or help in a direction would be greatly appreciated.

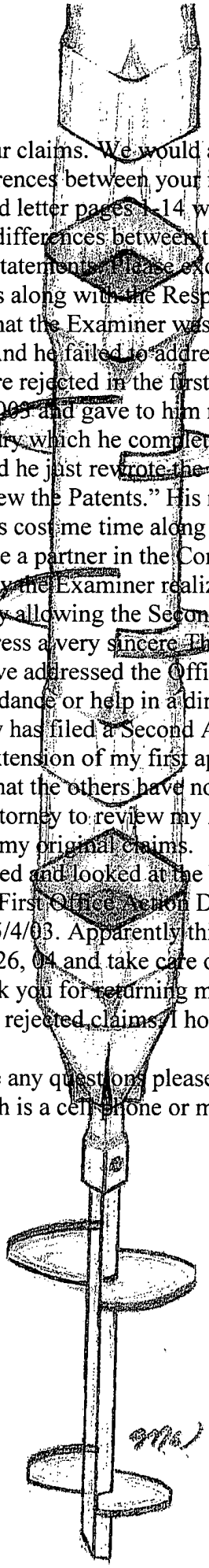
Mr. Garvey has filed a Second Application 10/690489 on my behalf on Oct. 21,2003. This is an extension of my first application. And he informed me I should file another Application that the others have not addressed. At this time I am searching for a Patent Agent or an Attorney to review my Applications to verify that I have not lost or given any thing up in my original claims.

I just realized and looked at the Notice of Draftsperson's Patent Drawing Review papers in the First Office Action Dated 2/26/02 and again cited in the Second Office Action Dated 5/4/03. Apparently this has not been addressed also. I will contact the draftsman on Jan.26, 04 and take care of this matter.

Again thank you for returning my phone call on Jan.20, 04 and allowing me time to respond to the rejected claims. I hope to get through this in a timely manner.

If there are any questions please feel free to contact me at any time (985) 807-7929, which is a cell phone or my residence at (985) 893-7929.

RESPECTFULLY SUBMITTED
MICHAEL A. WHITSETT



RECEIVED
JAN 2 6 2004
GROUP 3600

APPLICATION NO.09/993,321 Date January 4, 2004

RESPONSE TO EXAMINER OFFICE ACTIONS 1&2

Turzillo Patent#3,354,657 Dated Nov.25, 1967

The Turzillo patent differs in most all aspect of my patent application no.09/993,321 filed 11/14/2001. It appears to be a pressure grouted drilled-in-caisson type pile. This type of pile is heavily dependant on soil removal and cement/grout adhesion to the soil and the steel caisson to develop its ultimate capacity.

Turzillo Pile

1. Col.2 Lines 3-15 Referring to the drawings, generally, and to Figure 1, in particular, the numeral 10 designates a cylindrical hollow metal casing, assembled in a requisite number of sections 11,11, joined together by threaded coupling means 12, according to the depth of the hole required to be drilled in to the earth situs. The lower end of the casing may have non-rotatably affixed thereon, as by welding, a drill bit 14, such as a so-called three-wing fishtail, with carbon inserts on the leading gauge edges thereof, and having one or more openings 15, 15 axially there through. Screwed into the bit 14 may be a sectional anchoring rod 16 of required length, held axially centered within the casing, as by means of one or more centering spiders 17. The rod sections may be connected by suitable coupling means 18 (see Fig.1).

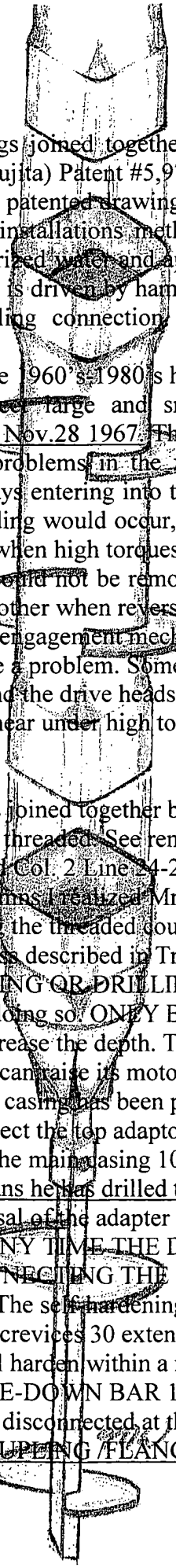
REMARKS

(a) Turzillo in Figure 1. The number 10/11 designates a cylindrical hollow metal casing, assembled in a requisite number of sections 11, 11 joined together by threaded coupling means12,

Cylindrical hollow metal pipe /casings are used for tension/compression type pilings routinely. Whether the pipe piles are drilled by soil removal (Trujillo's), screwed (Whitsett Pile), pushed, vibrated, or driven by hammer (Fujita) into the earth to support a structure, and assuming they are pre-engineered to specific soil, site, and load (reactions) they all will have to be extended in length to reach an assumed or anticipated load bearing capacity type soil.

These pipe/casing pile section types listed above are extended or joined together usually by these (4) common means as an industry standard. BUT NOW WE HAVE (5).

1. Pipe/casings welded together (typically a butt weld), field preparation can be time consuming, alignment between the pipes can be difficult, full penetration and multiple welding passes may be needed. Pipe wall thickness is usually large. A mechanical attachment/ engagement device to counter high torque between the hydraulic drive head and the pipe/casing such as those typically found on large drilling rigs where they clamp to the pipe in order to turn it would be needed. This process can be costly in the field during the pile installation process.

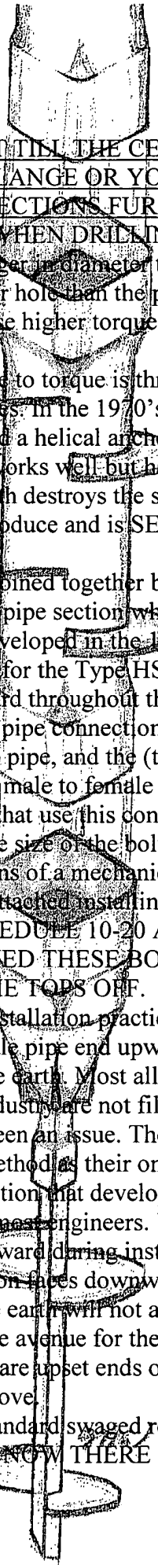


2. Pipe/casings joined together by threaded coupling means #12 (Turzillo) Patent Fig. 1 and # 16 (Fujita) Patent #5,975,808 Fig.1 show the same type of connection being used on each of the patented drawings listed above for pipe/ casings. Each of these Patents are different in installations methods, (Turzillo) uses soil removal by drilling and flushing with pressurized water and applying down pressure (crowd) to the dill bit # 14, the other pile (Fujita) is driven by hammer in to the earth. (Whitsett) My pipe/casings have no threaded coupling connection and it is screwed into the earth as a soil displacement type pile.

At one time 1960's-1980's helical anchor/pile manufactures used this same means to extend /connect large and small diameter pipe sections together. Note: Turizllo's Patent Date of Nov.28 1967. They looked for better methods than the threaded coupling due to many problems in the field. Damaged threads had to be cutoff and rethreaded, dirt was always entering into the threads causing problems, alignment had to be correct or cross threading would occur, pipe wall thickness had to be thick so that the pipe would not strip out when high torques were applied to install the anchor/piles to high capacities. The anchors could not be removed due to the possibility of the pipe coupling disconnecting from each other when reversed.

Again the engagement mechanism between the round pipe threads to the hydraulic drive head were a problem. Some drilled or cut holes thru the pipe and stuck steel rods thru the pipe and the drive heads external shaft to counter the torque. Some times these rods would shear under high torque or the pipe. Again the field installation proved too costly.

3. Pipe/casings joined together by flange connection means. With flanges you have 2 choices welded or threaded. See remarks above numbers 1&2. Also see Turzillo Fig. 1 #22 and please read Col. 2 Line 24-28 along with Col.3 Lines 3-15.When reading thru the above listed columns I realized Mr.Turzillo has problems in the flange connection area and using the threaded coupling to extend his casings as described by his patent. The drilling process described in Trujillo's patent DOES NOT ALLOW FOR EXTENDING THE CASING OR DRILLING DEEPER during the installation nor is there any mentioning of doing so. ONEY BEFORE HE STARTS TO DRILL can he extend the casing and increase the depth. THEN HE IS LIMITEDTO THE DEPTH by the height his drilling rig can raise its motor. Once he has commenced drilling to a pre-determined depth and the casing has been pressure grouted only than, can the motor drive 24 be reversed to disconnect the top adaptor 23 of the casing 10 is screwed off or otherwise released from the main casing 10. As stated, "If the adaptor extends partially into the hole H (This means he has drilled the adapter and the coupling/flange 22 to deep in the ground) such reversal of the adapter is carried out throughout the withdrawal of the adaptor from the hole. (ANY TIME THE DRIVE MOTOR IS REVERSED YOU RISK ACCIDENTLY DISCONNECTING THE (threaded coupled) CASING SECTIONS FROM EACH OTHER) The self-hardening fluid grout, or cementitious material, within the bulbous cavity C, the crevices 30 extending there from, the outer spaces S, and the interior of the casing, will harden within a matter of several hours (WASTED TIME) to anchor the casing and (TIE-DOWN BAR 16) rigidly within the earth mass, after which the motor unit 24 may be disconnected at the coupling/flange 22. (IN ORDER TO DISCONNECT THE COUPLING /FLANGE 22 (an assumed threaded connected type



flange) YOU MUST WAIT TILL THE CEMENT DRYS IN THE HOLE TO REVERSE AND UNSCREW THIS FLANGE OR YOU RISK DISCONNECTING THE CASING COUPLINGS # 12 CONNECTIONS FURTHER DOWN THE SHAFT.) HE CANNOT EXTEND THE CASING WHEN DRILLING!

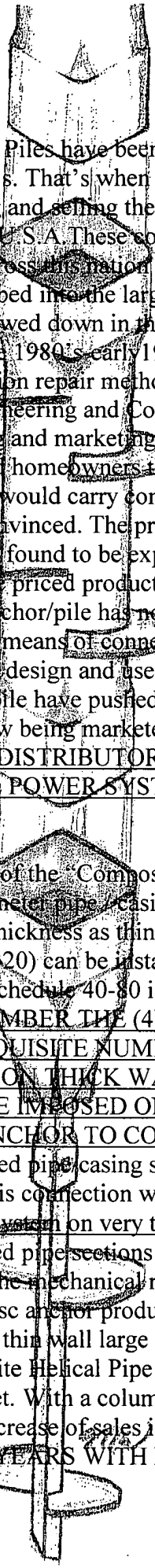
A flange is larger in diameter than the pipe/casings and when entering the earth it would leave a larger hole than the pipe/casing. The soil resistance to the larger diameter flange would cause higher torque and possibly stall the piles advancement into the earth.

The resistance to torque is through the connection bolts and the friction between the two flange faces. In the 1970's-1980's A.B.Chance/Hubbell Power Systems of Centralia, Mo. developed a helical anchor called Type TC that has a helical shaped flange connection, which works well but has some restrictions namely trying to screw the bolted sections into the earth destroys the soil around its pipe shaft. It is one of the most costly helical anchors to produce and is SELDOM EVER USED at this time.

4. Pipe/casings joined together by (swaging) a larger round diameter female coupling on one end of the pipe section which would allow for a male into female, thru bolted type connection. Developed in the 1970's A.B.Chance started production of a new pipe pile extension section for the Type HS Anchor/ Pile using this connection method which has become a standard throughout the helical anchor/pile manufacturing industry for large or small diameter pipe connections. This type of connection depends on the heavy wall thickness of the pipe, and the (typically 3) large diameter bolts passing through the pipe where the male to female pipes intersect into each other. Most all helical anchor /pile manufactures that use this connection method as described above use the bolts (or steel pins the same size of the bolts) that pass thru the heavy wall pipe on the male end as their only means of a mechanical engagement transfer mechanism between the hydraulic drive heads attached installing tool and the pipe pile. IF THINWALL PIPES WERE USED SCHEDULE 10-20 AND CONNECTED AS ABOVE WHEN HIGH TORQUE IS APPLIED THESE BOLTS WOULD RIP THROUGH THE PIPE SECTIONS TEARING THE TOPS OFF.

The typical installation practice throughout the industry is to face the female opening downward and male pipe end upward allowing dirt and debris to enter the pipes as they are screwed into the earth. Most all-helical anchor /pipe piles manufactured and installed throughout the industry are not filled with concrete and the dirt or debris entering the pipe has not been an issue. The industry standard is to use the heavy pipe wall thickness and bolts method as their only means of transferring loads to the helical disc lead unit. Also the friction that develops between the pipe and the soil is usually completely discounted by most engineers. With a (Whitsett Pile) the female swaged square opening is faced upward during installation and the male swaged squared end of the upper pipe/casing section faces downward. This type pipe/casing arrangement when installed (screwed) into the earth will not allow dirt or debris to enter the pipes. This allows for a debris /soil free avenue for the concrete to be poured into. Also the torque is transferred through the square upset ends of the pipe/casings not a through bolt connection as described above.

The industry standard swaged round pipe thru bolted connection with thick wall pipe is costly. UNTIL NOW THERE HAS NOT BEEN A GOOD ALTERNITIVE.



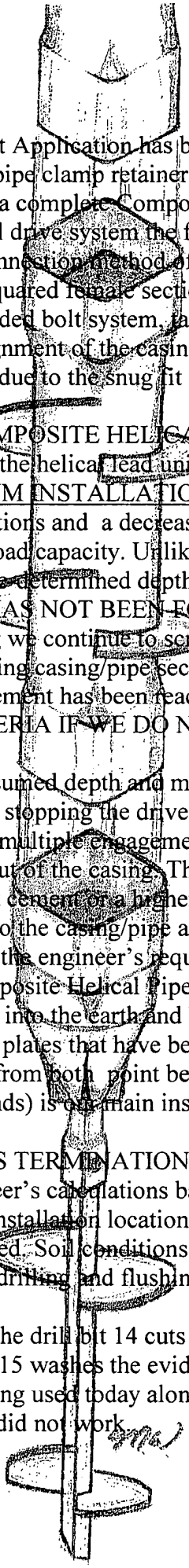
Helical/Anchor Piles have been predominately used in the electrical utilities market since the late 1950's. That's when A.B.Chance Company located in Centralia, Mo. Started manufacturing and selling their product to the electric power and telephone companies throughout the U.S.A. These companies needed an anchor system for new power line construction across this nation and material costs in an industrial market could be priced higher and absorbed into the large projects.
Eventually this market slowed down in the early1980's.

Not until the late 1980's-early1990's that A.B. Chance first introduced Helical Anchor /Piers as a foundation repair method for underpinning existing buildings and structures to the Civil Engineering and Construction Industry as a new market. It has taken many years of testing and marketing their product to convince engineers, architects, construction managers, and homeowners that the small diameter solid steel square shaft or small round pipe shafts would carry compressive loads in some soil conditions. And many today are still not convinced. The prices of helical anchor/ piles manufactured by most companies have been found to be expensive in most markets and there has not been a good working, alternative priced product to replace them.

The "helical" anchor/pile has not changed much since its introduction except as described earlier the (4) means of connecting the pipe shaft extension sections to each other. New markets for the design and use along with much higher load capacity and economics of making the pile have pushed us to start manufacturing the "COMPOSITE HELICAL PIPE PILE" now being marketed, sold and manufactured by HELICAL TOWER FOUNDATION DISTRIBUTORS of Lafayette, La. a WORLD WIDE A.B.CHANCE/HUBBELL POWER SYSTEMS Telecommunication Helical Anchor Distributor.

The uniqueness of the "Composite Helical Pipe Pile" design is its ability to be made in large to small diameter pipe /casing sizes and heavy walled pipe (schedule 40-80) or having a pipe wall thickness as thin as Schedule 10. This means lighter weight pipe sections (schedule 10-20) can be installed with equal or greater diameter casing sizes than other manufactures (schedule 40-80 is common) with out sacrificing installation torque or capacity. REMEMBER THE (4) COMMON MEAN TO ASSEMBLE PIPE/CASINGS IN A REQUISITE NUMBER OF SECTIONS WHICH WERE HEAVILY DEPENDENT ON THICK WALL PIPE TO COUNTER THE TREMENDOUS TORQUE IMPOSED ON THESE CONNECTIONS TO INSTALL THE LEAD HELICAL ANCHOR TO COMPITENT SOIL. With the square connection method at the interconnected pipe/casing sections we have found through tests and actual project installations that this connection will take a tremendous amount of torque with or without the internal drive system on very thin wall pipe/casings. This high torque capacity of the square ended pipe sections and with the use of the internal drive system has been found to exceed the mechanical rating for most all standard round pipe and square shaft lead helical disc anchor products of most Helical Anchor/Pier Manufactures.

With the economical thin wall large diameter pipe as a casing filled with concrete or grout gives the Composite Helical Pipe Pile one of the strongest and most economical shaft columns in the market. With a column strength that the engineers now easily and readily accept means an increase of sales in the helical market. THEY KNOW AND HAVE DESIGNED FOR YEARS WITH LARGE DIAMETER PIPE FOR PILES.



A new Patent Application has been filed with the PTO using a square mandrill drive tool and a square pipe clamp retainer as an option on the upper female square casing section to install a complete Composite "Helical" Pipe Pile, with or without having to use an internal drive system the full length of the pile/casing.

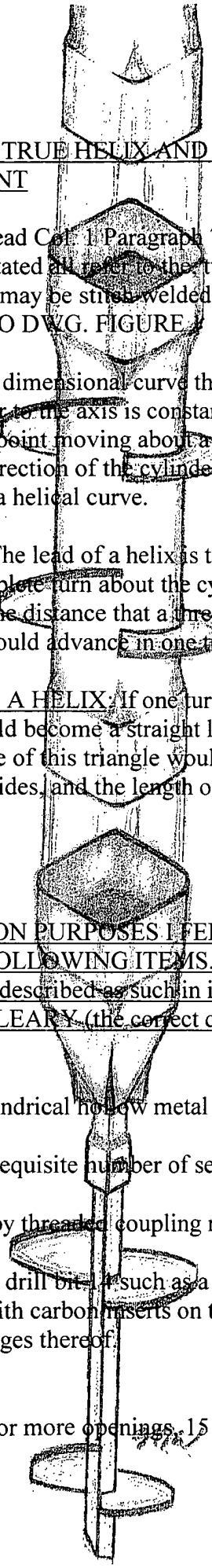
The easy connection method of inserting the squared male lower casing section into the upper squared female section has proven to work well when bolting, or using Lindapter's one sided bolt system, tack welding, or a full lap type weld as a connection means. Alignment of the casing sections is completed when the pipes are inserted into each other due to the snug fit of this type of connection.

With the "COMPOSITE HELICAL PIPE PILE " and most true helical anchors/piles we install the helical lead unit to an approximate engineered pre-determined depth and to a MINIMUM INSTALLATION TORQUE VALUE(an increase in torque means better soil conditions and a decrease in torque means weaker soil conditions) to achieve an engineered load capacity. Unlike the Turzillo Patent if we are installing the pile and we reach the pre-determined depth but do not reach the minimum torque value (COMPETENT SOIL HAS NOT BEEN FOUND AT THE ANTISIPATED DEPTH) set forth by engineering we continue to screw the lead helical unit into the earth and extend the depth by adding casing/pipe sections described above as needed till the minimum torque requirement has been reached. TORQUE IS OUR MAIN TERMINATION CRITERIA IF WE DO NOT REACH THE TORQUE WE DON'T STOP.

Once the presumed depth and minimum torque requirement has been satisfied we terminate the pile by stopping the drive motor releasing the hydraulic pressure and extracting the complete multiple engagement internal drive tool or the single mandrill drive tool by lifting it out of the casing. The casing/pipe is then cut off at a desired elevation. Now low cost cement or a higher priced grout mixture can be installed at any time (AT LEISURE) into the casing/pipe along with any reinforcing material (tension cables or steel rods) per the engineer's requirements or specifications.

With the Composite Helical Pipe Pile we depend on the helical lead disc unit's ability to pull the casing into the earth and bear into competent soil (to carry the imposed loads on its helical steel plates that have been torqued into good soil) this allows the pile to develop its capacity from both point bearing and skin friction. Again torque (measured in foot –pounds) is our main installation termination criteria along with depth.

TRUJILLO'S TERMINATION CRITERIA IS DEPTH. The depth should be determined by an engineer's calculations based hopefully on a good soil boring (accurate) taken very close to the installation location. Or in most cases drilled piles through soil removal are over designed. Soil conditions change drastically with locations and with the soil removal method of drilling and flushing with water there is no way to gauge the soils strength as
they are encountered. (The drill bit 14 cuts and breaks up the soil while the flushing with water through the holes 15 washes the evidence away.) This may be the reason I have not seen this type of pile being used today along with the high cost of materials, installation equipment, and labor it did not work.



DEFINATION OF A TRUE HELIX AND ITEMS PER NUMBER USED WITHIN TURZILLO'S PATENT

Please read Col. 1 Paragraph 7 and Col. 2 Lines 18-23, 46-58. The paragraph and lines stated all refer to the two separated, co-extending metal rod spirals, or threads, 19 and 20 may be stitch welded to the lower end of the lowermost casing section 11. REFER TO DWG. FIGURE 4

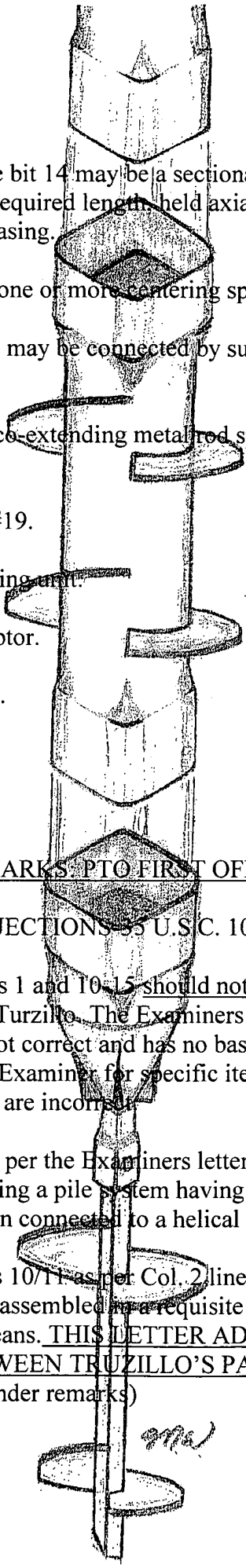
HELIX: 1. A three- dimensional curve that lies on a cylinder or cone, so that its angle to plane perpendicular to the axis is constant. 2. A spiral form or structure. 3. A helix is a curve generated by a point moving about a cylindrical surface (real or imaginary) at a constant rate in the direction of the cylinder's axis. The curvature of a screw thread is one common example of a helical curve.

LEAD OF HELIX: The lead of a helix is the distance that it advances in an axial direction, in one complete turn about the cylindrical surface. To illustrate, the lead of a screw thread equals the distance that a thread advances in one turn; it also equals the distance that a nut would advance in one turn.

DEVLOPMEMT OF A HELIX: If one turn of a helical curve were unrolled onto a plane surface the helix would become a straight line forming the hypotenuse of a right triangle. The length of one side of this triangle would equal the circumference of the cylinder with which the helix coincides, and the length of the other side of the triangle would equal the lead of the helix.

FOR CLARIFICATION PURPOSES I FEEL WE NEED TO ADDRESS (DEFINE PROPERLY) THE FOLLOWING ITEMS. The list is by designated numbers found in Turzillo's Patent and described as such in its statements and depicted in its drawings Figures 1-5 VERY CLEARY (the correct definition is next to Turzillo's).

(10) Designates a cylindrical hollow metal casing.	(Round metal pipe section)
(11) Assembled in a requisite number of sections.	(Screwed together sections of pipe)
(12) Joined together by threaded coupling means.	(Threaded pipe coupling)
(14) As by welding, a drill bit 14 such as a so-called three-wing fishtail, with carbon inserts on the leading and gauge edges thereof.	(Drill bit) Not a Helical Anchor. WELDED TO THE CASING See additional remarks below.
(15) And having one or more openings 15 axially there through	(Holes in the drill bit) to flush water or grout outside the casing.



(16) Screwed into the bit 14 may be a sectional anchoring rod 16 of required length, held axially centered within the casing. (Steel anchoring rod) NOT A DRIVE (tie-down bar) TOOL. See additional remarks below.

(17) As by means of one or more centering spiders. (Anchor rod centralizer)

(18) The rod sections may be connected by suitable coupling means. (anchoring rod threaded couplings) See additional remarks below.

(19) Two separated, co-extending metal rod spirals, or threads. (NOT A TRUE HELIX SEE THE DEFINITION ABOVE) See additional remarks below.

(20) Same as above #19. (SAME AS ABOVE)

(22) A suitable coupling unit. (Flanged pipe connection)

(23) On a driven adaptor. (Threaded pipe adapter between the drive motor and the flange)

(24) Hydraulic motor.

(25) Drill rig.

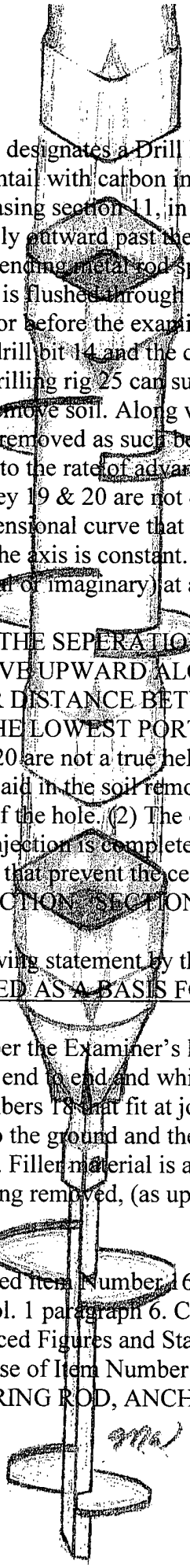
ADDITIONAL REMARKS: PTO FIRST OFFICE ACTION MAILED 5/2/03

PAGE 3 CLAIM REJECTIONS 35 U.S.C. 102 NUMBERS 4 & 5

5. Claims 1 and 10-15 should not be rejected under 35 U.S.C. 102(b) as being anticipated by Turzillo. The Examiners interpretation of Turzillo's Patent as stated in this paragraph is not correct and has no basis for the rejection. The designated item numbers used by the Examiner for specific items found in text and referenced in drawings Figures 1-5 are incorrect.

Statement per the Examiners letter, Turzillo discloses, Fig. 1, a pile apparatus and method of installing a pile system having hollow pile sections 10/11 with a lowermost pile section connected to a helical anchor 14.

Numbers 10/11 as per Col. 2 line 4-7 the number 10 designates a cylindrical hollow metal casing, assembled in a requisite number of sections 11, joined together by threaded coupling means. THIS LETTER ADDRESSES IN DETAIL THE DIFFERENCE BETWEEN TRUZILLO'S PATENT AND THIS APPLICATION (Starting on page 1 under remarks)



Number 14 designates a Drill Bit (NOT A HELICAL ANCHOR), such as a so called three-wing fishtail with carbon inserts on the leading and gauge edge, welded to the bottom portion of casing section 11, in Fig.1-5 it clearly shows the leading edge of the bit extending horizontally outward past the casing 11's outer wall and also past 19&20 the two separate, co-extending metal rod spirals, or threads. With this in mind as the drill bit 14 rotates and water is flushed through holes 15 the outer edge of the drill bit 14 is removing dirt ahead of or before the examiner's said helix #19 & 20. So therefore the rate of advancement of the drill bit 14 and the casing #11 is thru the amount of applied down pressure (crowed) the drilling rig 25 can supply, the drive motors R.P.M.'s, and through the drill bits ability to remove soil. Along with pressurized water to flush it away.

If the soil is removed as such before 19 & 20 the metal rod spirals, this means they offer no resistance to the rate of advancement. Therefore they are not used, as a true helix would be. Also they 19 & 20 are not depicted as such in Figure 1. A true helix is defined as a three –dimensional curve that lies on a cylinder or cone, so that its angle to plane perpendicular to the axis is constant. Or a curve generated by a point moving about a cylindrical surface (real or imaginary) at a constant rate in the direction of the cylinder's axis.

FIGURE 1. SHOWES THE SEPERATION DISTANCE BETWEEN THE RODS (19/ 20) AS THEY MOVE UPWARD ALONG THE CASING 11'S OUTER WALL HAVING A GREATER DISTANCE BETWEEN EACH OTHEIR THAN THOSE (19/20) FOUND ON THE LOWEST PORTION OF THE CASING.

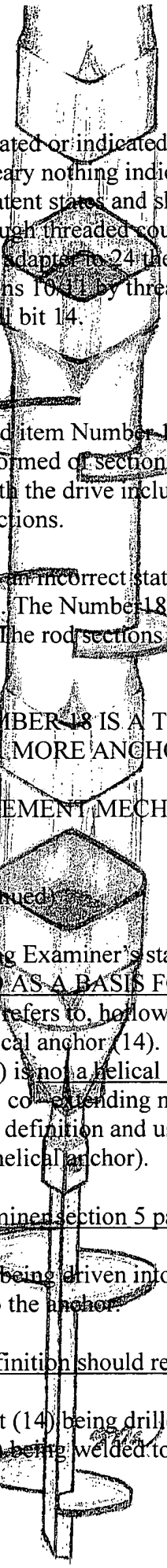
They 19 &20 are not a true helix and Turzillo's Patent states they serve dual purposes (1) they are to aid in the soil removal process creating a bulbous enlargement or cavity C at the bottom of the hole. (2) The other purpose for these rods is an anchor system once the grout injection is completed. (Imagine how much dirt can be trapped between the rods19&20 that prevent the cement grout from adhering to the casing?)

PAGE 3 CLAIM REJECTION "SECTION 5.

The following statement by the Examiner is incorrect and <u>SHOULD NOT BE USED AS A BASIS FOR REJECTION.</u>

As stated per the Examiner's letter. An internal drive system formed of sections 16 connectable end to end and which fit within the pile sections with the drive including enlarged members 18 that fit at joints 12 between respective pile sections. The anchor being driven into the ground and the lower most or first pile section being connected to the anchor. Filler material is added within the pile section with at least part of the drive member being removed, (as upper sections 18 and above), before adding the filler material.

The designated item Number 16 found within the patent in Figures 1-4 and in statements located in Col. 1 paragraph 6. Col. 2 lines 13-17, 41-42, Col. 3 lines 13and17. All of the above referenced Figures and Statements clearly indicate through all of the name changes the purpose of Item Number 16 IS: an ANCHORING BAR, A SECTIONAL ANCHORING ROD, ANCHORING ROD, OR a TIE-DOWN BAR.



Nowhere is it stated or indicated within the Patent that Number 16 is any thing else but an anchor rod. Cleary nothing indicates it is an internal drive system formed of sections. MR.Turzillo's Patent states and shows in Figure 1. The drill bit 14 is welded to casing 11/10 attached through threaded coupling 12 to casing 10/11 to suitable coupling 22 which is attached to 23 adapter to 24 the drive motor 25 the drill rig. The screwed together pipe/casing sections 10/11 by threaded coupling means are the only drive members that turns the drill bit 14.

PAGE 3 SECTION 5.

The designated item Number 18 in the same paragraph the Examiner states. An internal drive system formed of sections 16 connectable end to end and which fit within the pile sections with the drive including enlarged members 18 that fit at joints12 between respective pile sections.

Again this is an incorrect statement and SHOULD NOT BE USED AS A BASIS FOR REJECTION. The Number 18 again can be found in Figure 1. And stated only in Col. 2 Line16-17, The rod sections 16 may be connected by suitable coupling means 18
(See Fig. 1).

ITEM NUMBER 18 IS A THREADED COUPLING CONNECTOR USED TO JOIN TWO OR MORE ANCHOR ROD SECTIONS (16) TOGETHER AS STATED ABOVE.
(IT IS NOT AN ENGAGEMENT MECHANISM ON A INTERNAL DRIVE TOOL)

Page 3 SECTION 5 (continued)

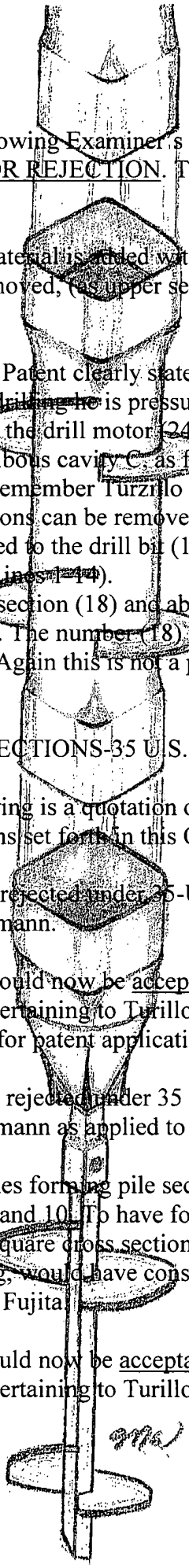
The following Examiner's statement's below by definition are incorrect and SHOULD NOT BE USED AS A BASIS FOR REJECTION. The Examiner in this same section 5-paragraph line 3 refers to, hollow pile sections (11) with a lower most pile section connected to a helical anchor (14). (The number (14) by definition and referred in the patent as a drill bit (14) is not a helical anchor along with the numbers (19/20) designating two separated, co-extending metal rod spirals stitch welded to the same lower most pipe/casing by definition and usage are not a true helix therefore the lower most section is not a true helical anchor).

The statement by the Examiner section 5 paragraph lines 6-7:

The anchor being driven into the ground and the lowermost or first pile section being connected to the anchor.

The same statement by definition should read:

The drill bit (14) being drilled into the ground and the pipe/casing (10/11) or first pipe/casing (10/11) being welded to the drill bit (14).



The following Examiner's statement is incorrect; it SHOULD NOT BE USED AS A BASIS FOR REJECTION. The statement can be found in section 5, paragraph line 7-8.

Filler material is added within the pile section with at least part of the drive member being removed, (as upper sections 18 and above), before adding the filler material.

Turzillo's Patent clearly states the grouting procedures he uses to fill the piling system. As he is drilling he is pressure grouting at full capacity thru, separated conduit means (27) thru the drill motor (24) through the pipe /casing (10/11) and through drill bit (14) into the bulbous cavity C, as found in Col. 2 Lines 33-38, Col.2 Lines 59-72 and Col.3 Lines 1-20. Remember Turzillo is drilling during the grouting process thus no pile/casing (10/11) sections can be removed. And the only drive member in his patent is the casing (10/11) welded to the drill bit (14). Please read (What is claimed is: Col.3 Lines 31-35 and Col.4 Lines 1-14).

(As upper section (18) and above) This portion of the Examiner's statement above again is incorrect. The number (18) refers to the coupling that joins the anchor rod sections (16) together. Again this is not a part of a drive member.

PAGE 4 CIAIM REJECTIONS-35 U.S.C. 103 SECTIONS 6 & 7

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

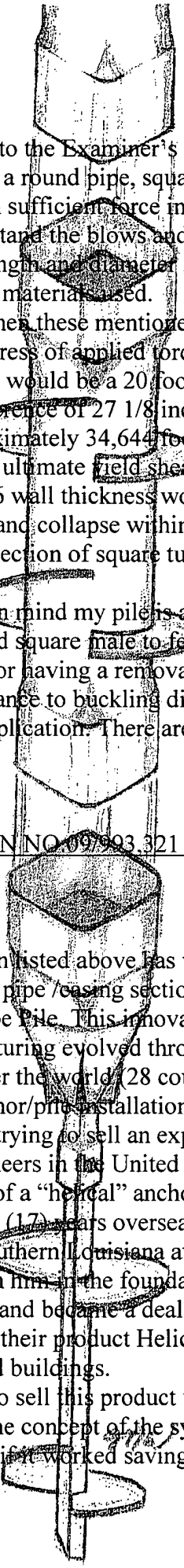
7. Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over Turzillo in view of Baumann.

Claim 2 should now be acceptable in view of the discrepancies and findings identified in this letter pertaining to Turillo's Patent. Baumann Patent lacks basis for the rejection of the applied for patent application.

8. Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Turzillo in view of Baumann as applied to claim 2 above, and further in view of Fujita.

9. Fujita teaches forming pile sections of circular or square cross sectional shape, Fig. 1 and Fig. 7 and 10. To have formed the pile sections 11 of the modified Turzillo assembly of a square cross section, thus realizing an effective resistance to compression or buckling, would have constituted an obvious expedient to one of ordinary skill in the art taught by Fujita.

Claim 3 should now be acceptable in view of the discrepancies and findings identified in this letter pertaining to Turillo's Patent and the acceptance of Claim 2 in view of Baumann's.



In response to the Examiner's rejection. Fujita's pile is a driven pile by hammer means. As such a round pipe, square, rectangle or fore that matter almost any shape can be driven with sufficient force into the ground providing the material used has enough strength to withstand the blows and the strength to penetrate the soil it is being driven into. Of coarse length and diameter should be taken into consideration along with the wall thickness of the materials used.

However when these mentioned shapes have torque applied the strongest shape to withstand the stress of applied torque is round pipe over long sectional lengths.

An example would be a 20 foot long piece of round pipe 8 5/8 Inches in diameter with a circumference of 27 1/8 inches a 3/16 Wall Thickness Astm A53 35. ksi material will take approximately 34,644 foot –pounds of torque. This is when the pipes outside diameter is at its ultimate yield shear strength. The same dimensionally in square tubing 6 ¾ x 6 ¾ by 3/16 wall thickness would take far less torque than the pipe will. The square tubing will twist and collapse within it self of the same length, more easily than the round pipe. A short section of square tubing will not twist as easily as a along section.

With this in mind my pile is a hybrid pile. Using the high strength of round pipe with a newly formed square male to female coupling/ mechanical engagement mechanism as a connector having a removable drive tool for installing helical pipe piles.

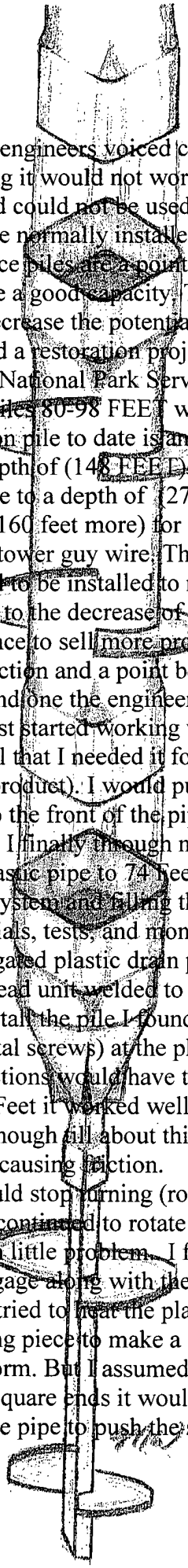
The resistance to buckling difference between round piles verses square is not the issue with my application. There are far more round piles installed than square.

PATENT APPLICATION NO.09/993,321 FILED 11/14/2001

The application listed above has within it a novel approach to joining cylindrical hollow metal pipe /casing sections together to form a high load capacity Composite "Helical" Pipe Pile. This innovative, simple, and economical idea in helical pile design and manufacturing evolved through the accumulation of many years of my life's experiences all over the world (28 countries) in engineering, construction, and thousands of helical anchor/pile installations in many unique and adverse conditions. Also countless hours of trying to sell an expensive old product in a new market that most civil and structural engineers in the United States and around the world have never designed with, or heard of a "helical" anchor/pile.

In 1991 after (17) years overseas working as an engineer with the oil and gas industry I returned to Southern Louisiana at the request of my daughters God father to stay home and work with him in the foundation repair business. One month into the business I learned about and became a dealer/installer in this area for A.B.Chance Co. selling (or trying to sell) their product Helical Piers as a piling /underpinning system to repair sinking homes and buildings.

When trying to sell this product with its 1 1/2" x 1 1/2"solid steel square shaft to engineers they liked the concept of the system, although they thought the price for materials were high, but if it worked saving a home maybe the cost could be justified.



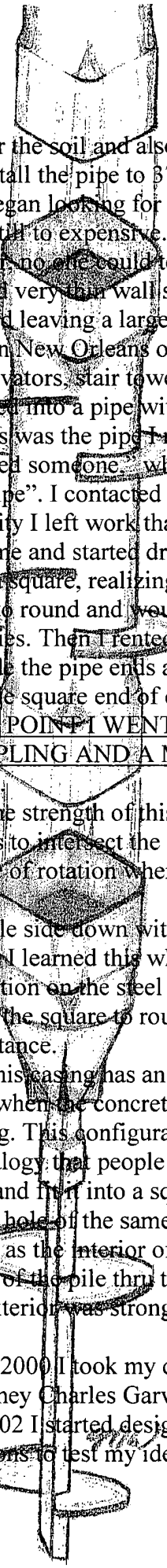
At the same time these engineers voiced concern about the skinny or very slender shaft, and some laughed stating it would not work in this area. We found early on that this thin shaft had limitations and could not be used everywhere. Here in this part of the world 30'-40' wooden piles are normally installed under most houses as a friction pile and they still subside. A.B. Chance piles are a point bearing pile so they have to be installed to deeper depths to achieve a good capacity. These increases in depths lead to even higher material costs, which decrease the potential, to sell in this market.

In 1995 I did a restoration project in the New Orleans French Quarter on the Department of Interior /National Park Service Headquarters Building there I installed 113 Chance Type HS Pipe piles 80-98 FEET within the building which was built in 1790. (My deepest compression pile to date is an A.B. Chance TYPE HS 3 ½" SCHEDULE 80 Helical pipe pile to a depth of (148 FEET). A tension pile I installed in 1997 for 40,000 Lbs. at a 45-degree angle to a depth of (274 FEET) in 2003 I reattached on to this same anchor and installed it (160 feet more) for 55,000 LBS. for a total depth of (434 FEET) IN HOUMA, LA. for a tower guy wire. These are examples of extreme depths that these piles in some cases need to be installed to reach capacity.

In 1996 due to the decrease of construction projects and slow sales along with pressure from A.B.Chance to sell more products I started looking for an alternative pile that would work as a friction and a point bearing pile that would be more economical in these soil conditions. And one the engineers that I was working with would except and specify on projects. I first started working with plastic pipe (it was much cheaper than steel pipe at the time) all that I needed it for was a debris free casing to pour concrete down (the other cheap product). I would pull the plastic pipe into the ground by attaching a Chance Helical Pier to the front of the pipe with a conical cone transition unit I fabricated. In mid 1996, I finally through many different trials and configurations installed a 4 1/2 inch plastic pipe to 74 feet in Lake Pontchartrain within a boathouse using an internal drive system and filling the pipe with grout. (2500 ft-lb. of torque)

With more trials, tests, and money I graduated to attaching 8 inch diameter ConTech A-2000 corrugated plastic drain pipe to a steel fabricated conical cone transition piece, having a helical lead unit welded to the lower most portion. With a removable internal drive tool to install the pile I found that gluing and screwing plastic pipe sections together (with sheet metal screws) at the plastic internal couplings which I fabricated and used to join the pipe sections would have their limitations. When the pipe first enters the earth for the first 20-25Feet it worked well, but I could not install it any deeper. The soil would hold back long enough till about this depth and then reconsolidate around the plastic pipe casing thus causing friction.

The pipe would stop turning (rotating), then break or pull apart. I found that as long as the plastic pipe continued to rotate at the same speed of the helical it would advance downward with little problem. I felt, I needed a stronger connecter and one that the drive tool would engage along with the thin wall plastic pipe to make it rotate and resist the torque. I then tried to heat the plastic pipe on the ends to remold them around a 6 inch steel square tubing piece to make a square male to female connection, which I found was difficult to form. But I assumed that if I could have the plastic pipe manufactured with the square ends it would work well. About this time I bolted angle iron to the exterior of the pipe to push the soil further back away from the casing to allow



the pipe more time to enter the soil and also to reduce friction. It worked and these changes allowed me to install the pipe to 37-40 feet and then it would pull apart.

At this point I began looking for a stronger material to work with. Again I priced regular steel pipe, still to expensive. I called many people locally about thin wall pipe 6-8 inches in diameter, no one could tell me where to get it or they just wanted to sell from their stock. I tried very thin wall square tubing; it twisted under torque to easily and moved the soil outward leaving a larger diameter hole (void).

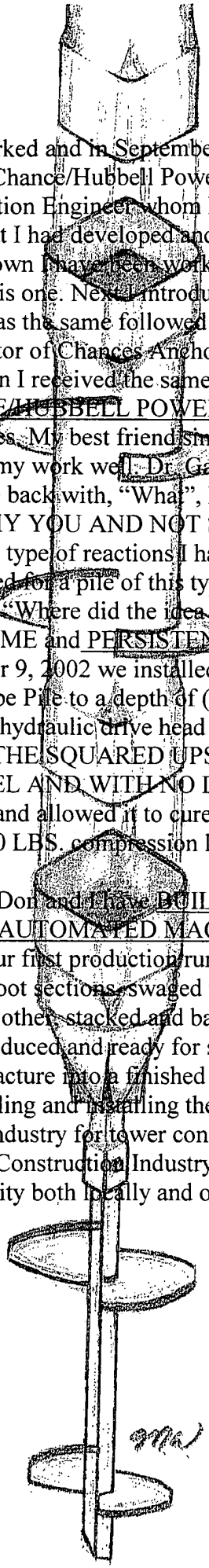
I was working in New Orleans on the Ritz Carlton Hotel in 1998/ 1999 installing piles for new elevators, stair towers, and a new basement/ swimming pool. When one morning I backed into a pipe with my truck as I went to remove it from under the rear body I realized this was the pipe I needed. It was an 8 inch steel thin wall scheduled 20 pipe so I asked someone, "where is it being used and for what purpose"? He stated, "That's sprinkler pipe". I contacted American Sprinkler Company and asked about the price also the availability I left work that day to purchase a 20 foot piece (the price was right). I brought it home and started drawing and calculating the size dies I needed to reshape the pipes ends to a square, realizing that all other shapes as found with remolding plastic pipe were to close to round and would not take torque. I had a machinist make me a set of male and female dies. Then I rented a pancake type 50-ton hydraulic jack, which I placed with the dies inside the pipe ends and changed their shape from round to square. After this I slipped the male square end of one pipe into the larger swaged female squared end of the other. AT THIS POINT I WENT TO SHAKING REALIZING I HAD A NEWLY FORMED COUPLING AND A MECHANICAL ENGAGEMENT MECHANISM FOR PIPE.

Not knowing the strength of this connection I designed an internal drive shaft with engagement mandrels to intersect the interior square ended pipe casings to help turn everything at the same rate of rotation when installing the lead helical unit deep into good soil.

I turned the male side down with the female side facing up to keep the dirt out when installing the casing. I learned this when working with plastic pipe. Also when forming the square connection on the steel pipe I notice the female swaged end exterior had a nice sloping taper at the square to round upset which I presumed would pull into the ground with little resistance.

The interior of this casing has an (in /out) shaped configuration at the round pipe to square upsets that when the concrete is poured into the casing it takes the same shape (molds) as the casing. This configuration when a compression or tension load is applied takes the same analogy that people have used for years; you cannot take a round peg having the same area and fit it into a square hole of the same size or a square peg of the same area into a round hole of the same size. The round interior area of the pipe will yield the same dimensions as the interior of the square. (When testing my plastic pipe pile I pushed the concrete core of the pile thru the plastic pipe. The soil bonding to the corrugated plastic pipes exterior was stronger than the concretes bond to the plastic pipes smooth interior.)

On August 23, 2000 I took my drawings along with my ideas to a recommended patent attorney Charles Garvey and we started the Patent process and filed 11/14/2001. In June of 2002 I started designing and building a swaging machine to fabricate pipe/casing sections to test my idea in large quantities and install test piles.



The new machine worked and in September 2002 I introduced it to Richard Thorsten P.E. (25 Years) with A.B.Chance/Hubbell Power Systems as there South Central Regional Manager and Application Engineer whom I have worked with almost daily since 1991 he could not believe what I had developed and asked what my plans for marketing and sales were. Richard has known I have been working since 1996 on a new pile development with plastic but not this one. Next I introduced it to my fairly new business partner Don Calais, his reaction was the same followed by when do we start making and selling them. Rich Zinser the Director of Chances Anchoring Division flew in to see the pile at the request of Mr.Thorsten I received the same reaction he liked the new concept and gave his and A.B.CHANCE/HUBBELL POWER SYSTEMS BLESSINGS for us to start manufacturing the piles. My best friend since childhood a doctor in Houston whom over the years has learned my work well. Dr. Gary asked me when he saw the prototype, "WHY YOU". I came back with, "What", His remark again, "WHY YOU," again I said, "What" He said, "WHY YOU AND NOT SOMEONE ELSE CAME UP WITH THIS IDEA"? These are the type of reactions I have received from engineers and others in this business that see a need for a pile of this type not only in this area but all over the country. When asked, "Where did the idea come from?"(I TELL MOST PEOPLE IT EVOLVED OVER TIME and PERSISTENCE.)

On October 9, 2002 we installed a test pile a 8 INCH Schedule 20 steel pipe; Composite Helical Pipe Pile to a depth of (75Feet) using a Bobcat Skid Steer Machine with a boom attached hydraulic drive head (I APPLIED 15,000 FOOT-POUNDES OF TORQUE ACROSS THE SQUARED UPSET FEMALE END OF THE CASING WITH A SINGLE MANDREL AND WITH NO DESTORTION OF THE CASING). We filled the pipe with cement and allowed it to cure. We preformed a full-scale load test on the pile. It held to 106,000 LBS. compression load.

My partner Don and I have BUILT A NEW WAREHOUSE BUILDING ALONG WITH THE AUTOMATED MACHINERY TO MANUFACTURE THIS NEW PILING SYSTEM. Our first production run was (1365) Feet of 8" pipe in 42Foot joints plasma cut into 10.5Foot sections, swaged to a Male Square on one end and a Larger Female Square on the other, stacked and banded for shipping. A total of 130-10.5'pile extension sections produced and ready for shipping in 4 hours. (Approx. 2 minutes per pipe section to manufacture into a finished product).
We are marketing, selling and installing the Composite Helical Pipe Pile in the Telecommunication Industry for tower construction, and augmentation of existing tower sites also to the Civil Construction Industry and have found very good acceptance in the Engineering Community both locally and other parts of the country.

Respectfully Submitted,
MICHAEL A. WHITSETT